

**AMENDMENTS TO THE CLAIMS**

Claim 1 (Currently amended): A method for production of three-dimensional bodies by successive fusing together of selected areas of a powder bed, which parts correspond to successive cross sections of the three-dimensional body, ~~which method comprises the following method steps~~the method comprising:

~~application of~~applying powder layers to a work table,

supplying energy ~~from a~~from one radiation gun, according to an operating scheme determined for the powder layer, to said selected area ~~within the powder layer, where said supplying includes~~

~~fusing together that area of the powder layer selected according to said operating scheme for forming a cross section of said three-dimensional body by fusing together the powder in said area, a three-dimensional body being formed by successive fusing together of successively formed cross sections from successively applied powder layers, characterized in that~~such that ~~said selected area has two or more fusion zones which propagate simultaneously through the selected area when formation of a cross section of the three-dimensional body takes place~~during said forming.

Claim 2 (Currently amended): The method as claimed in claim 1, ~~characterized in that said two or more fusion zones are brought about by a radiation gun~~said supplying including supplying energy to two or more geometrically separate focal points while time sampling takes place, thereby creating said fusion zones.

Claim 3 (Currently amended): The method as claimed in claim 1 ~~or 2, characterized in that~~the method further including propagating the focal points ~~of said radiation gun at said two fusion points~~propagate ~~zones~~ at a speed which corresponds to ~~the~~a wave propagation speed of the fusion zone.

Claim 4 (Currently amended): The method as claimed in claim 3, ~~characterized in that~~the

~~method further including estimating said wave propagation speed is estimated by measuring the wave propagation speed of the fusion zone from information provided by means for sensing~~measuring the temperature distribution of a surface layer located in the powder bed of said selected area.

Claim 5 (Currently amended): The method as claimed in claim 3, ~~characterized in that the method further including estimating said wave propagation speed is estimated by calculating an energy balance for an area comprising said focal points, said wave propagation speed being obtained from a model of a thermal conductivity equation set up for said area.~~

Claim 6 (Currently amended): The method as claimed in claim 1, ~~characterized in that the method further including calculating an energy balance is calculated for at least one part area within each powder layer, it being determined in the calculations~~said calculating including determining whether energy radiated into the part area from the surroundings of the part area is sufficient to maintain a defined working temperature of the part area.

Claim 7 (Currently amended): The method as claimed in claim 6, ~~characterized in that said supplying energy including supplying, in addition to said energy for fusing together the part area, energy for heating the part area is supplied to a defined working temperature if the result of the energy balance calculation is that there is not sufficient energy for maintaining an intended working temperature of the part area is not present, at the part area at the defined working temperature of the part area then being achieved.~~

Claim 8 (Cancelled)

Claim 9 (Currently amended): An arrangement for producing a three-dimensional product, ~~which arrangement comprises the arrangement comprising:~~

a work table ~~on which~~where said three-dimensional product is ~~to be~~ built up,

a powder dispenser which is ~~arranged so as to distribute~~forms a powder bed by distributing a thin layer of powder on the work table ~~for forming a powder bed,~~

a radiation gun ~~for delivering~~that supplies energy to the powder, ~~fusing together of the powder then taking place, means for guiding~~

a beam guide that guides the a beam emitted by the radiation gun ~~over said powder bed for forming~~such that said beam forms a cross section of said three-dimensional product by successively fusing together parts selected areas of said powder bed, and

a control computer ~~in which~~

stores information about successive cross sections of the three-dimensional product ~~is stored, which cross sections build up the three-dimensional product, where the control computer is intended to control, and~~

controls said ~~means for guiding the radiation gun over the powder bed~~beam guide according to an operating scheme forming a cross section of said three-dimensional body, ~~said three-dimensional product being formed by successive fusing together of successively formed cross sections from by the powder dispenser, characterized in that~~

where said operating scheme is ~~arranged so as to guide~~guides the radiation gun~~beam~~ to two or more fusion zones of said selected area, ~~which the fusion zones propagate propagating simultaneously through the selected area when during formation of a said cross section of the three-dimensional body takes place.~~

Claim 10 (Currently amended): The arrangement as claimed in claim 9, ~~characterized in that said~~where the operating scheme is ~~arranged so as, while time sampling takes place, to guides~~guide said radiation gun the beam to two or more fusion zones while time sampling takes place, ~~for thereby~~ supplying energy to two geometrically separate focal points.

Claim 11 (Currently amended): The arrangement as claimed in claim 9 ~~or 10,~~ ~~characterized in that said~~where the operating scheme is ~~arranged so as to guide~~guides the focal points of the radiation gun~~beam~~ at said ~~two fusion points zones~~ at a propagation speed which corresponds to ~~the~~a wave propagation speed of the fusion zone.

Claim 12 (Currently amended): The arrangement as claimed in claim 11, ~~characterized in that~~where the control computer ~~is arranged so as to estimate~~estimates said wave propagation speed ~~by measuring the wave propagation speed of the fusion zone from information provided by means for sensing~~measuring the temperature distribution of a surface layer of said selected area ~~located in the powder bed.~~

Claim 13 (Currently amended): The arrangement as claimed in claim 11, ~~characterized in that~~where the control computer ~~is arranged so as to estimate~~estimates said wave propagation speed by calculating an energy balance for an area comprising said focal points, said wave propagation speed being obtained from a model of a thermal conductivity equation set up for said area.

Claim 14 (Currently amended): The arrangement as claimed in claim 10, ~~characterized in that~~where the control computer ~~is also arranged so as to calculate~~calculates an energy balance for at least one part area within each powder layer, ~~it being determined and determines,~~ in the calculation, whether energy radiated into the part area ~~from the surroundings of the part area is~~ sufficient to maintain a defined working temperature of the part area.

Claim 15 (Currently amended): The arrangement as claimed in claim 14, ~~characterized in that~~ the control computer ~~is arranged so as to control~~controls said ~~operating scheme~~beam guide ~~for supply of such that,~~ in addition to said ~~supplying~~ energy for fusing together powder layers, said radiation gun supplies energy for heating the ~~powder layer~~part area to a defined working temperature if the result of the energy balance calculation is that the operating scheme ~~is not providing sufficient~~provides insufficient energy for maintaining ~~an intended working temperature of the part area,~~ a ~~at the~~ defined working temperature ~~of the part area then being maintained.~~

Claim 16 (Cancelled)

Claim 17 (Currently amended): The arrangement as claimed in ~~claim 10~~claim 9, ~~characterized in that the arrangement also comprises~~further comprising ~~means for sensing the temperature distribution of a surface layer~~ temperature distribution sensor located in the powder bed~~that senses the temperature distribution of a surface layer of said selected area.~~